

My code displays all the nodes, roads and polygons (as best as I could for the polygons), it highlights all the roads containing the prefix in the search box in their name and highlights the closest node, displaying the roads connected to it and its ID, when the screen is clicked (if clicked reasonably close to the nodes). Panning and zooming is implemented (though only through the buttons), there is no drop down menu for the search bar – QuadTrees took too long to implement.

For the road searching I have implemented a Trie, and for the searching of nodes I have implemented a QuadTree.

The QuadTree search checks the neighbouring nodes to the one clicked to see which of the nodes from the clicked node and its neighbours is the closest node to the click.

The QuadTreeNode can also be drawn by uncommenting a loop in the draw method of RoadMap.java

The polygons with endlevel = 1 disappear at scale = 50 and those with endlevel = 2 disappear at scale = 25.

I tested my program worked through physical testing. To debug problems I used print statements, highlighting, and the debugger.